



Northern Arizona Healthcare **Health and Wellness Village**

City Council

May 2, 2023



HEALTH AND WELLNESS VILLAGE

NAH as a non-profit

We are...

- A non-profit healthcare system that operates to serve a public interest, and provide a full spectrum of care (education, prevention, and treatment)
- The only Level-1 Trauma Center north of the greater Phoenix area, providing life- and limb-saving care to thousands each year
- An employer to approximately 4,000 people throughout the Flagstaff and Verde Valley region
- Care givers to more than 700,000 residents and millions of tourists to Northern Arizona each year
- An open emergency room to all, regardless of ability to pay

NAH is...

An independent,
non-profit corporation

100% of profits are re-invested into
facilities, equipment, and employees

Governed by a volunteer,
unpaid Board of Directors

*No officers of the company have
financial interests in the company*



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Making health care available to all

We strive to combine the capability of providing world class care with providing care for those who cannot afford it.

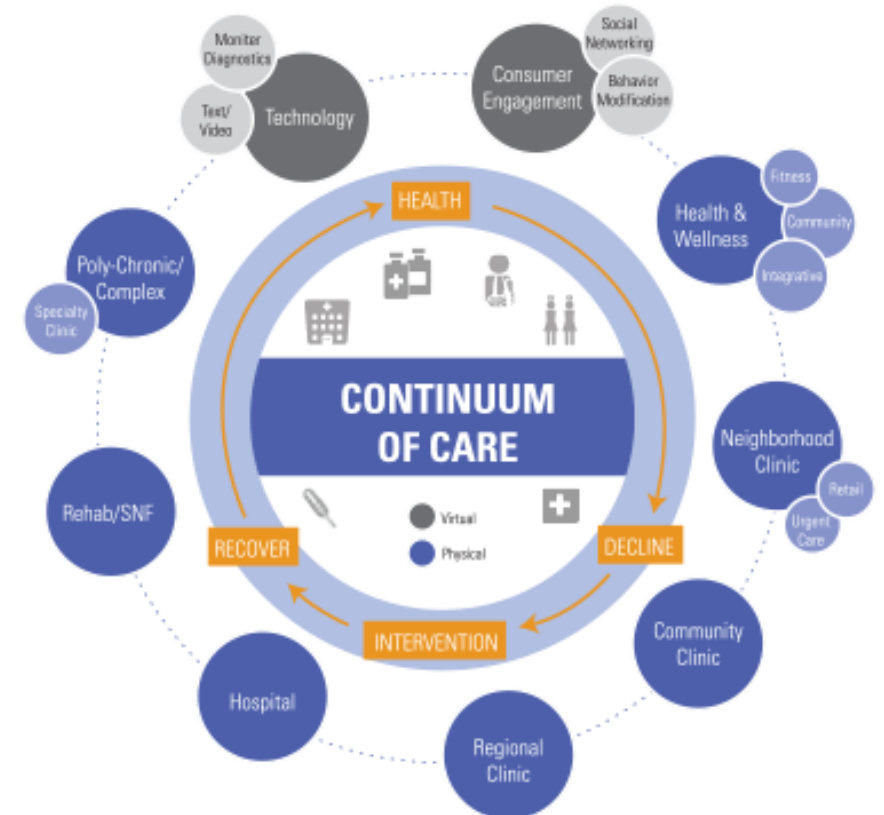
25% of patients are considered financially disadvantaged

1/3 of FMC's patients are enrolled members of Native American tribes

Apache and Navajo counties are among the most impoverished counties in the country; disproportionately and historically underserved

NAH provided more than \$125 million in care for patients who would not have been able to afford those services otherwise in FY2021

In partnership with government-assisted primary care and community health services, we provide a continuum of care not found elsewhere





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Flagstaff is the regional hub of northern Arizona

Education

Northern Arizona University | Coconino Community College

Transportation

Regional Airport | I-17 & I-40 Interchange

Government

Coconino County | ADOT | State of Arizona |
Federal Government

Tourism

Grand Canyon National Park | Arizona Snowbowl |
Ft. Tuthill County Park

Health Care

Flagstaff Medical Center | North Country HealthCare |
Sacred Peaks Health Center

	ACTUAL POPULATION*			PROJECTED POPULATION†		
	2000	2010	2020	2030	2040	2050
ARIZONA	5,130,632	6,392,017	7,151,502	10,152,000	12,745,000	16,000,000
Northern Arizona	605,762	724,607	767,315	1,199,000	1,505,000	1,890,000
Coconino Co.	116,320	134,421	145,101	230,000	289,000	363,000
Other N. AZ Counties‡	489,442	590,186	622,214	969,000	1,216,000	1,527,000

*U.S. Census Data

†Arizona Population Projections, Maricopa Association of Governments

‡Apache County, Mohave County, Navajo County, Yavapai County



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1200 N. Beaver isn't suited for the 21st century

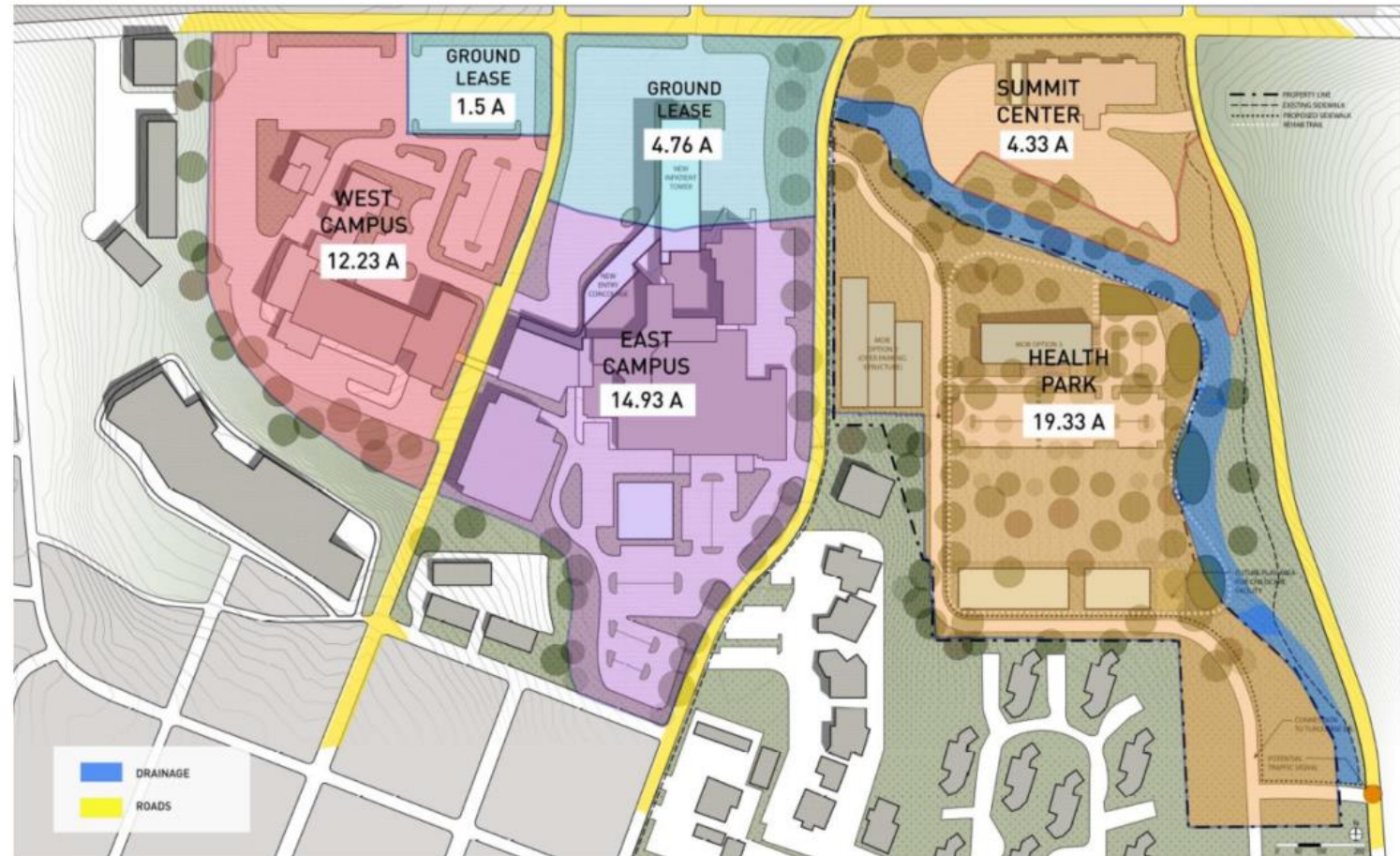
Insurmountable challenges: wash, public roads, and elevation differences

Bisected Campus

- Prevents true integration of inpatient and outpatient services
- Magnifies wayfinding confusion, particularly in times of stress

Limited Expansion Opportunities

- Does not improve operational efficiencies, further compounds existing challenges
- Multiple departments left unimproved and undersized for expansion of inpatient beds
- Campus would be fully built out, with no further expansion opportunities
- Untenable to modify while retaining all existing services – disruptions lasting several years



Current Flagstaff Medical Campus



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Obstacles to expanding at 1200 N. Beaver

Geographic Challenges

- Multiple entrances, across 3 different roads
- Operational inefficiencies are magnified, staff and providers in 3 separate buildings
- No integration of inpatient and outpatient services
- Central Plan is decoupled, reducing energy efficiency, and preventing achievement of carbon neutrality

Future Obstacles

- Support departments left unimproved and undersized for expansion of inpatient beds
- ED remains as-is, with no expansion opportunity
- Additional tower would...
 - Allow for all private rooms
 - Limit net gain to just 8 additional beds
 - Provide no future expansion

	1200 N. Beaver St.	Split Campus	1120 Purple Sage Rd.
Timetable			
Cost Estimate			
Achievement of Focus Areas			
Enable Growth & Flexibility			
Physician Integration			
Affordability to Patients			
Operational Efficiencies			
Health Campuses			
Ambulatory Platform			

Ideal State

Most Benefits Realized

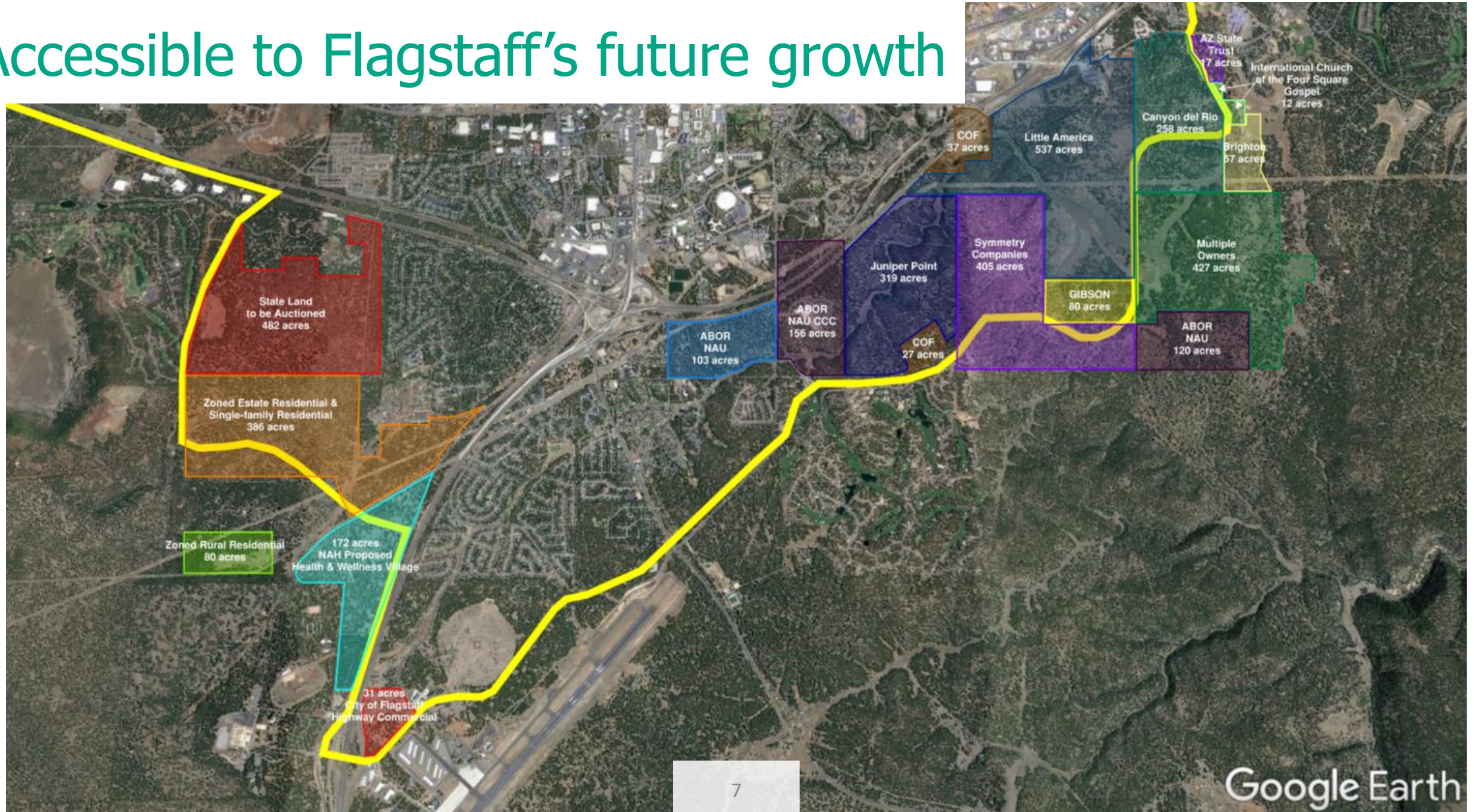
Some Benefits Realizes

Significant Drawbacks



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Accessible to Flagstaff's future growth





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Improving the Emergency Department experience

Optimal layout and design of an ED, based on the needs of patients

Linear Design

- Provides more direct observation of patients and access for care givers, without compromising the ability for the care team to collaborate
- Allows for flexing up/down of the overall department, as patient volumes and acuity change throughout the day
- Ideal for future growth/expansion, as the line can simply extend to the north

Patient Segmentation

- More isolated exam rooms for intoxicated patients, reducing the risk of cross-patient incidents
- Introduction of quick-look bays, close to the entrance, to speed the triage and treatment of low-acuity visits

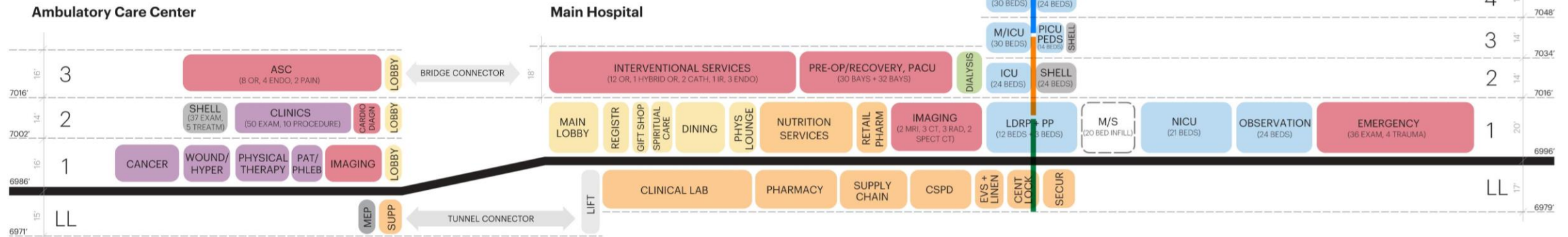




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Building height

- Health care facilities are designed with the 'flow' of patients, family members, and providers in mind; with a focus on:
 - Eliminating waiting time
 - Decreasing and alleviating stress
 - Minimizing walking distances
 - Removing non-value adding activities
- Most services and departments can be designed in a horizontal format, through careful planning of adjacencies and layouts
- Meticulous efforts have been made to reduce overall building height, minimize visibility of taller sections, and maintain effective flow for patients, family members, and providers





Flagstaff Climate Action & Adaptation Plan

Adopted Oct. 27, 2020

Preliminary Emission Reduction Targets

- **Solid Waste:** reduce materials sent to the landfill 80%
- **Travel Mode Shift:** reduce vehicle miles traveled an additional 50% by promoting biking, walking, and public transit
- **Clean Vehicles:** reduce fuel consumption by 75% through zero emission vehicles
- **Air Travel:** reduce fuel consumption 15%
 - Higher capacity hospital will reduce upwards of 50% of patients flow to Phoenix, Las Vegas, and Albuquerque
- **Industrial Energy:** 100% renewable electricity, reduce natural gas and electricity consumption by 50% and 5% respectively
- **Commercial Energy:** 100% renewable electricity, reduce natural gas and electricity consumption by 40% and 20% respectively
 - Hospital/ACC will reduce natural gas consumption by 78%, and overall energy by 45%
- **Commercial New Construction:** no natural gas*
- **Residential Energy:** 100% renewable electricity, reduce natural gas and electricity consumption by 70% and 40% respectively
- **Residential New Construction:** no natural gas*
- **Carbon Sequestration/Offsets:** 173,367 MTCO₂e

**banning of natural gas is prohibited in Arizona*



White House Climate Pledge

July 1, 2022: NAH among first to voluntarily sign on to HHS Health Care Sector Climate Pledge

Pledge signers committed to:

- Reduce organizational emissions by 50% by 2030 and achieve net-zero by 2050, publicly accounting for progress on this goal every year
- Designate an executive-level lead for their work on reducing emissions by 2023 and conduct an inventory of Scope 3 (supply chain) emissions by the end of 2024
- Develop and release a climate resilience plan for continuous operations by the end of 2023, anticipating the needs of groups in their community that experience disproportionate risk of climate-related harm





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Sustainability | Commitment to solar

An expedited commitment...

- As part of our Climate Pledge, NAH is committed to the implementation of solar-generated electricity, across our entire health system
- We have always planned for the incorporation of photo-voltaic panels at the new campus, ensuring the structural elements can handle the additional weight
- Given the emphasis we heard at Planning & Zoning, NAH is willing to commit to installing photo voltaic panels on top of the parking garage by 2030
- Additionally, NAH will explore partnership opportunities with APS, to enhance the overall generation of renewable electricity to all NAH locations (including in the Verde Valley)



Ample footprint for photo voltaic panels on garage rooftop



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Sustainability | Site development & water efficiency

Site development

- Only 40% of the overall land is being developed
- More than 30% of the site will be improved
 - 25% of that being vegetated
- 30% of the site will remain undisturbed forest
 - If developed by right (estate residential) no forest would be retained

Water efficiency

- Acorn Vacuum Sanitary System – 10 million gallons saved annually
- Heat Pump Chiller – 10 million gallons saved annually
- Medical Equipment and Analyzers – 2 million gallons saved annually

30% of site left undisturbed

Choosing efficient systems will reduce water use by 22 million gallons per year



Sustainability | Energy reduction

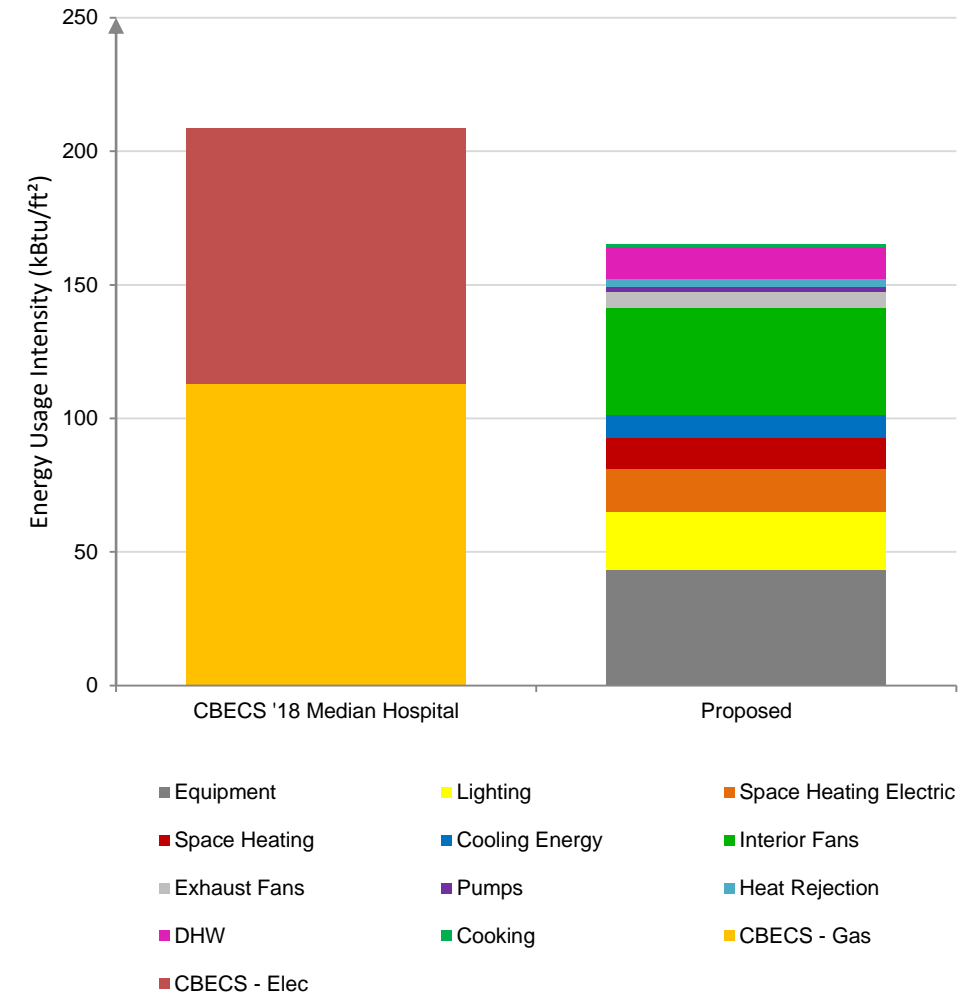
Energy Use for the New Facility (↓)

- 12% below ASHRAE 189.1 standard (LEED baseline)
 - Heating Plant is 116% more efficient than 189.1
 - Cooling Plant is 3% more efficient than 189.1
- 18% below Energy Star 75
- 21% below CBECS national index for hospitals
- **45% below current hospital energy use**

Strategies to Reduce Energy Use Indicator (EUI)

- Optimized orientation and glass type for managing solar gain
- Heat pump/heat recovery chiller technology (electrified heating)

Energy Benchmarking





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LEED rating potential

NAH is not pursuing LEED certification

- The project was reviewed according to the LEED Scorecard tool to understand how it meets sustainability and resiliency goals in-line with the mission and vision
- Based on the LEED Scorecard tool, the ACC and CUP have the potential to achieve **LEED Gold** certification
- LEED certification would take critical capital away from clinical programs, equipment, and capacity





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Sustainability | Need for natural gas

Strategy: provide a resilient source of heat for patient safety, with the least consumption and emissions from natural gas

- FGI Guidelines and ASHRAE 170 require heating to have fully redundant sources, to reduce patient risk management for winter design temperatures
- Electric-based redundancy requires more diesel generators and fuel storage
- Fuel for generators must be trucked in, during a prolonged outage, and is a risk in heavy winter snow and ice
- Energy recovery/heat pump chillers use electricity as the primary heating source
- 96% efficient boilers are then used to trim heat up or ramp down, to accurately meet winter demand
- The ambulatory care center is 100% electric
- We are opting for electric kitchen equipment whenever feasible

Natural gas consumption will be reduced by 78%



Sustainability | Embodied carbon reductions

Steel construction

- Mass timber construction is not permitted in Type IA building construction
- Partnering with our steel supplier, the design of the buildings has been optimized, reducing the amount of steel by 19% (by weight) over code standard designs
- Side plate joining methods are being implemented, to provide adaptability, reduce the weight required, and reduce the amount of welding
- A large majority of the material for the project will be procured through EPD* certified manufacturers

NAH New Campus

Weight Reduction

	Nov-2021		Feb-2023		Delta	
Hospital	7,428.69	Tons	6,343.58	Tons	(1,085.11)	Tons
ACC	2,018.96	Tons	1,302.56	Tons	(716.40)	Tons
CUP	358.73	Tons	219.96	Tons	(138.77)	Tons
Total	9,806.38	Tons	7,866.10	Tons	(1,940.28)	Tons

(19.8%)

**Reduced steel by ~40,000 lbs
production and transportation**

*Environmental Product Declarations (EPD) program:

<https://www.ul.com/resources/environmental-product-declarations-program>



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Sustainability | Carbon reduction strategy

Reductions via Water Reprocessing

- On-site and indoor water systems will reduce water consumption, saving nearly 12 metric tons of CO2 from being produced
- Outdoor water use reductions, by using native and adapted plants, and a smart irrigation system

Construction Steel Reduction

- The ~2,000 tons of steel eliminated from the buildings, equates to ~4,000 metric tons of CO2 emissions (not including diesel transportation emissions)

Helicopter Flight Savings

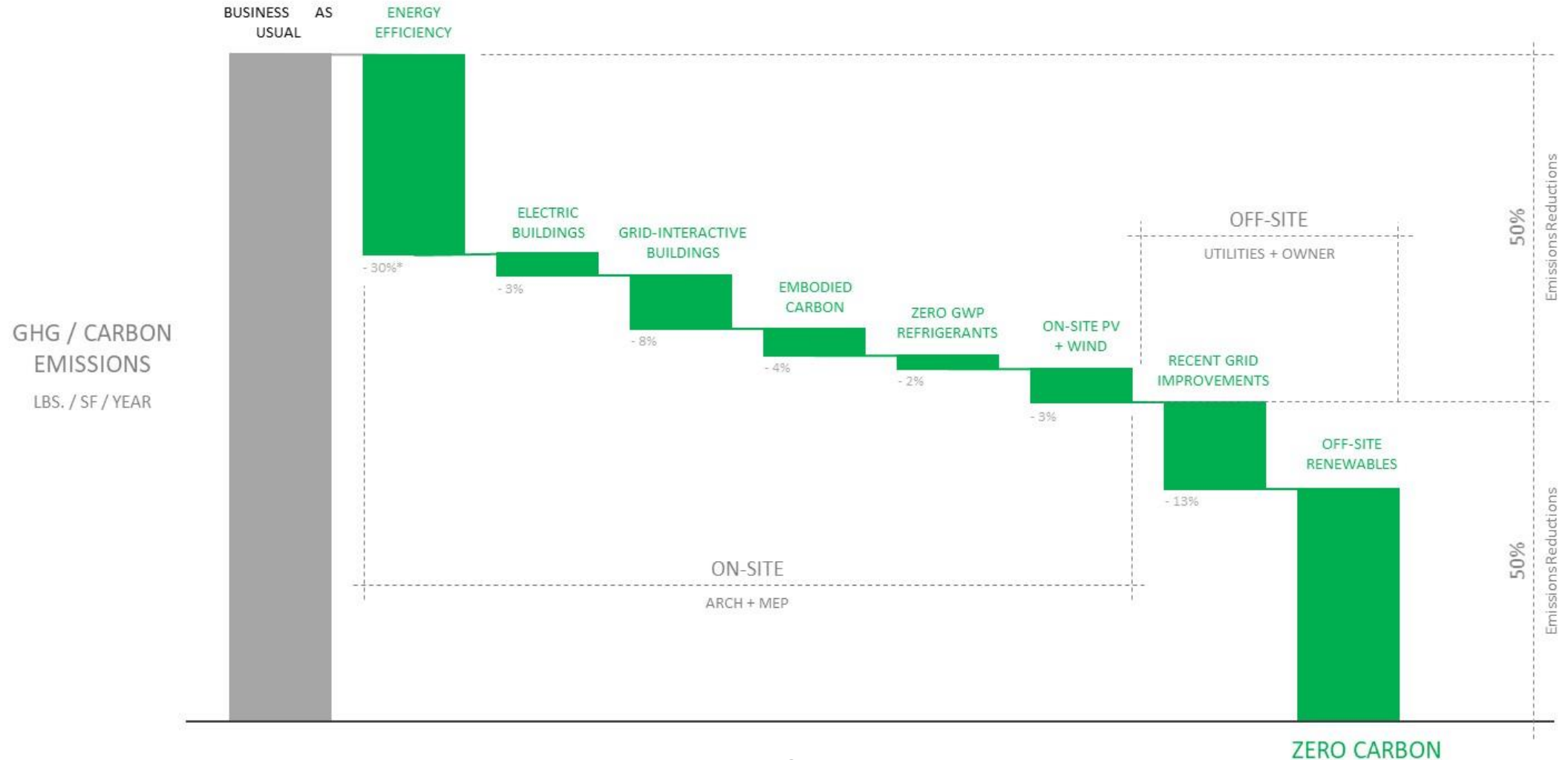
- We average ~1,000 flights to Phoenix, ~432 flights to Las Vegas, and ~102 flights to New Mexico, each year
- Each roundtrip produces between 1.4 and 2.4 metric tons of CO2
- Reducing the number of capacity-related flown deferrals by half would amount to approximately a 1,318 metric ton reduction in CO2

Over 1,330 metric tons of CO2 emissions eliminated, each year



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Sustainability | Path to carbon neutrality





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Our combined sustainability efforts

Operation

- **Site Development:** 30% of the site will remain undisturbed forest
- **Water Efficiency:** reduced consumption by 22 million gallons per year
- **Energy Consumption:** 45% reduction, compared to the current hospital
- **Natural Gas:** 78% reduction, compared to current hospital
- **CO2 Production:** over 1,330 metric ton reduction between water use reductions and avoided deferrals by helicopter

Built Environment

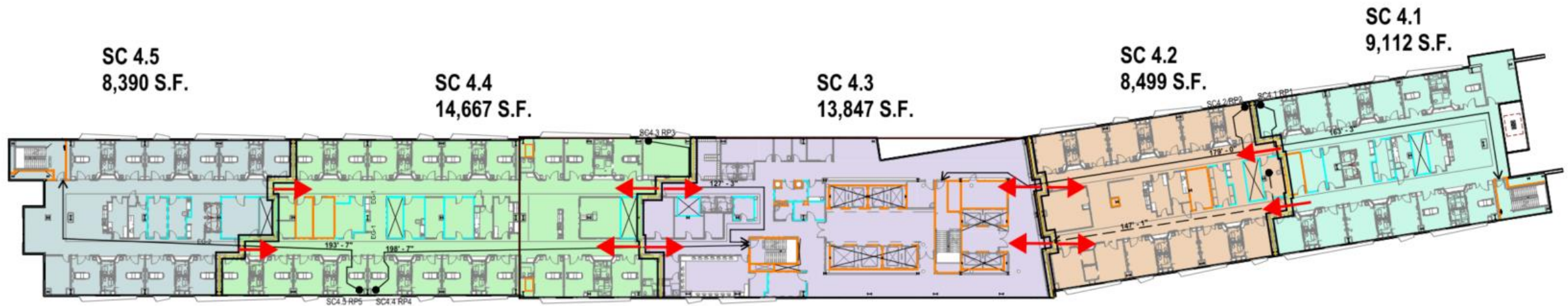
- **Steel:** ~40,000 lbs of steel, reducing CO2 generation by more than 4,000 metric tons (not including diesel transportation emissions)
- **Vegetation, rocks and soil reuse:** removed trees for benches, native limestone for retaining walls and natural, decorative landscaping
- **Renewable Electricity:** photo-voltaic panels on top of parking garage



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Combating fires in hospitals

- Hospitals are unique, in that many occupants cannot evacuate the building in the event of a fire
- Unlike most other buildings, a comprehensive strategy to life safety is implemented, including things like:
 - Building design
 - Detection systems and alarms
 - Construction materials
 - Fire suppression systems
 - Staff training
- A hospital is divided into sections called 'smoke compartments' that cannot be more than 22,500 sq ft
- These 'smoke compartments' are protected on all sides, and allow for the containment of a fire
- In the event of a fire, all persons from the affected 'smoke compartment' are relocated to another area, and fire fighters can combat the contained fire



Travel impact analysis inputs

- We have been partners with City Staff and MetroPlan since the beginning
- We have taken the current and future data that was given to us by MetroPlan and used it as our baseline for assumptions
- All forecasting of trip distribution were applied to the traffic models based on the future 2040 MetroPlan model, at the direction of City Traffic Staff





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We care about transportation access and equity

- Whether it is for patients, families, or employees, NAH ensures the imperative that getting to the hospital is easy, affordable, and not a burden
 - Patients are currently provided bus passes if Mountain Line services a location near their residence
 - We coordinate and pay for Uber/Lyft rides for those not served by public transit (more than 1,700 rides per year)
 - For those coming from a far distance, we arrange and pay for Greyhound and/or Amtrak tickets
 - We offer bus passes to all Flagstaff Medical Center employees, at no cost
- NAH is committed to running a shuttle between the nearest Mountain Line stop and the new hospital/acc, at no cost to any riders
- Access to healthcare services has been identified as such a critical gap that AHCCCS (a.k.a., Medicaid) arranges and pays for transportation to and from any required care

UBER
Health



lyft healthcare



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Being good neighbors

On-going engagement with the County, including a formal response to their December letter last week

- **Traffic** | Widening of the JW Powell/I-17 bridge and Beulah Blvd will improve access and traffic flows to the park (particularly during special events), and improve safety with the re-alignment of Mountain Dell Rd (with a 90° intersection)
- **Partnership** | We have met with County leadership multiple times, and are committed to establishing a recurring meeting cadence with the County, to further drive synergistic outcomes
- **Protect the Park** | Careful attention has been given to FTCP's boundaries, and site design decisions have been expressly made to increase buffers between trails and roadways
- **Opportunities** | Just as we have partnered with the City for pursuit of grant funding, we are committed to collaborating with the County to further enhance park features and integration points with the Health and Wellness Village



Fort Tuthill County Park, our southern neighbor

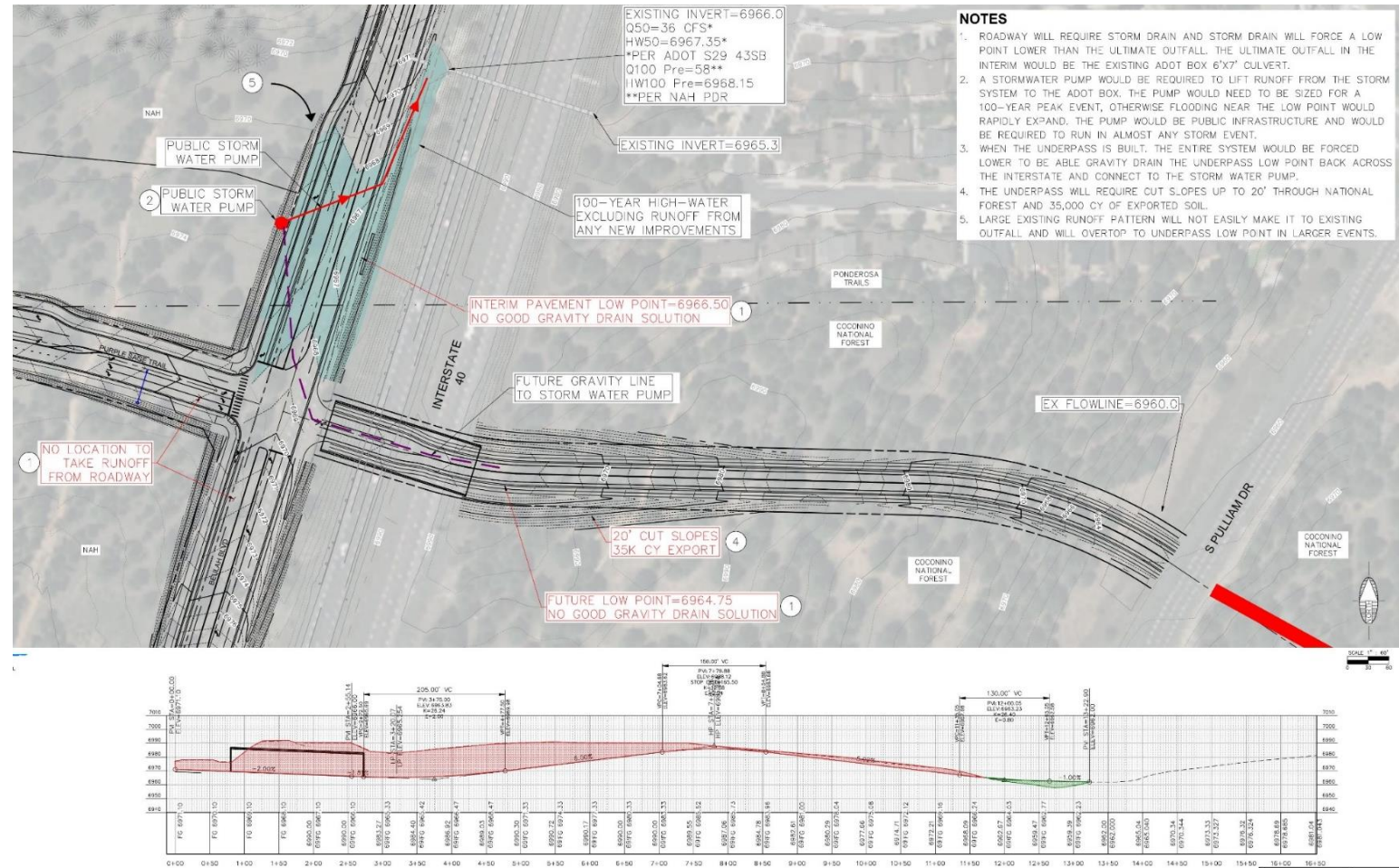


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Grading down for potential underpass

We recommend to perform grading as part of an overall underpass project

- We've committed to widening Beulah Blvd, and improving Purple Sage Rd and Mountain Dell Rd
- The recorded development agreement assures NAH will follow through when the City is ready
- We do have concerns about grading down Beulah/Purple Sage before the underpass:
 - If graded down now, a new low point will be created, increasing the risk of flooding and adding to the City's general fund expenses
 - To construct the underpass will require approval from U.S. Dept. of Forestry, and the excavation of 35,000 cubic yards of earth
 - Once constructed, there will be two independent low points, further increasing the stormwater mitigation costs





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Vision Planning for 1200 N. Beaver Campus

Q3 2023*

Existing Conditions and Market Assessment

- Complete a Community Engagement Plan that includes a combination of traditional and focused engagement
- Existing conditions mapping and analysis, including both the site and a study area that includes adjacent neighborhoods and the downtown business district
- Update the Downtown Vision Plan market assessment to incorporate medical center site considerations
- Create an existing conditions 3D model of the site

Q4 2023*

Visioning

- Conduct online survey to seek input on desired uses, design character, connectivity, community priorities, etc.
- Preparation for and facilitation of a three-day team charrette to include multiple meetings with surrounding neighborhoods, public, under-represented groups, City Council work session, etc.

Q1 2024*

Develop Alternatives

- Generate two or three alternative reuse concept plans—bubble diagrams and 3D massing
- Test emerging concepts with market and financial feasibility screens
- Work with project management team and SAC to refine concepts
- Community meetings to view alternatives and obtain input of preferred concepts

Q2 2024*

Develop Vision Plan

- Check in with Regional Plan team to ensure alternatives meet regional vision
- Develop a succinct and professional document that outlines the process, community input, alternatives, and preferred direction for the site
- City Council work session to review draft vision plan
- Final revisions to plan document

* Schedule is based on a May 2023 approval



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Economic benefits for Flagstaff

	By Hospital Opening	By Build-out of the Health & Wellness Village	20-year Horizon, Post Build-out	TOTAL 40-year Economic Benefit
Property Tax	\$0.05 million	\$3.0 million	\$4.5 million	\$7.55 million
General Fund Sales Tax	\$3.3 million	\$8.0 million	\$10.4 million	\$21.7 million
Transit Sales Tax	\$1.0 million	\$2.3 million	\$3.1 million	\$6.4 million
Roads & Transportation Sales Tax	\$3.3 million	\$8.0 million	\$10.3 million	\$21.6 million
Bed Board & Beverage Tax	\$0.1 million	\$5.6 million	\$9.0 million	\$14.7 million
State Shared Revenues	\$0.2 million	\$4.0 million	\$4.2 million	\$8.4 million
Schools (property tax)	\$0.2 million	\$10.4 million	\$15.7 million	\$26.3 million
TOTALS by PHASE	\$8.15 million	\$41.3 million	\$57.2 million	\$106.65 million

Does not account for indirect tax revenues
Does not include taxes associated with the ~2,000 net new jobs



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NAH development agreement commitments

■ Fire & Police Impact Fees (\$1.3M)

- Required, standard impact fees, assessed to all new development

- Relocate Fire Station #6 (*DA § 4.6.1*)

- NAH to pay 50% of capital costs (including land acquisition)
- Estimated \$4.5 million contribution from NAH

■ On-Site Transportation Improvements (*DA § 8.1.1*)

- Current estimated cost to construct: \$7+ million
- Re-align Purple Sage Rd, improving the road and access to Getaway Trl
- Construct East portion of Woody Mountain Rd
- Grade Beulah Blvd and Purple Sage Rd for a future I-17 underpass

■ Off-Site Transportation Improvements (*DA § 8.1.2*)*

- Estimated cost to construct: \$45 million
- Widen Beulah Blvd to 4-lane, raised median complete street (for a stretch of 3 miles)
- Re-align Mountain Dell Rd, forming a safe and protected intersection with Beulah Blvd
- Improve 8 additional intersections along Beulah Blvd
- Construct a roundabout on the East side of the I-17 and JW Powell bridge



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NAH development agreement commitments

- Install photo-voltaic panels on top of the parking garage by 2030 (*DA § 4.4.3*)
 - **Estimated cost to construct: \$7 million**
- Pay for a third-party consultant to guide a public visioning process for the redevelopment of FMC (*DA § 4.9*)
 - **Estimated cost: \$200,000**
- Provide private shuttle service from nearby Mountain Line stop(s) to the hospital, until public transit is extended to the new campus (*DA § 4.5*)
 - **Annual estimated cost to operate: \$250,000**
- Construct a water storage tank, minimum net volume of 685,000 gallons, including any required site development improvements (*DA § 6.3*)
 - **Estimated cost to construct: \$2 million**
- Extend a 16-inch waterline loop approximately 9,125 linear feet (*DA § 6.4*)
 - **Estimated cost to construct: \$2 million**



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Development fee comparison

NAH is committed to partnering with the City of Flagstaff to financially support associated development, well in excess of any recent developer

- In comparison to other recent developments of size, NAH is paying a fair share and acting in earnest as a fair developer
- Financial contributions above and beyond standard impact fees:
 - Off-site Transportation Improvements \$45 million
 - On-site Transportation Improvements \$7 million
 - Fire Protection ~\$4.5 million
 - Transit ~\$250,000/yr
 - Photo-Voltaic Panels \$7 million
 - Water Storage Tank \$2 million
 - Extend 16" Water Line \$2 million

	Fire Protection*	Transit
The Hub	\$0	New Bus Stop (~\$130,000)
The Standard	\$0	\$0
Mill Town	\$0	\$0
Canyon Del Rio	\$0	New Bus Stop (~\$130,000)
Timbersky	\$0	\$0

**in excess of required impact fees*



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Engaging the community since 2021

Neighborhoods

- University Heights
- Mountain Dell
- Ponderosa Trails
- Forest Highlands HOA
- Townsite Homes
- Sterling Real Estate
- Vision Communities

Education Organizations

- Northern Arizona University
- Coconino Community College

State & Regional Government

- Coconino County Representatives
- ADOT
- Navajo Nation
- City of Cottonwood
- Verde Valley Mayors, Managers, Supervisors, Tribe and Nation Bi-Weekly Meeting

Community Groups

- Downtown Business Alliance
- Assistance League of Flagstaff
- Friends of Flagstaff's Future
- Continuum of Care Flagstaff
- Northern Arizona Leadership Alliance
- Northern Arizona Building Association
- Economic Collaborative of Northern Arizona (ECoNA)
- Flagstaff Chamber of Commerce
- Northern Arizona Association of Realtors

Public Services

- Airport Commission
- Mountain Line/NAIPTA
- Arizona Department of Health Services
- MetroPlan

Local Government

- Flagstaff City Manager
- City of Flagstaff Development
- City of Flagstaff Comprehensive Planning
- City of Flagstaff Traffic
- City of Flagstaff Support Divisions
- City of Flagstaff Sustainability Commission
- City of Flagstaff Parks and Recreation Commission

National Government

- Sen. Mark Kelly
- Sen. Kyrsten Sinema
- Rep. Tom O'Halleran
- Rep. Eli Crane

Official Public Meetings

- January 4, 2022
- January 18, 2022
- October 10, 2022

Modifications from community feedback:

- Extended West patient tower to 30-bed unit, reducing from 7 floors to 6 floors
- Shifted higher density and more intense development to the north
- Adjusted building placement, to allow for a 2nd medical office building on the hospital parcel
- Incorporating a partnership cafeteria model, showcasing local restaurants
- Modifying our plan for outpatient services, expanding our future presence in central Flagstaff

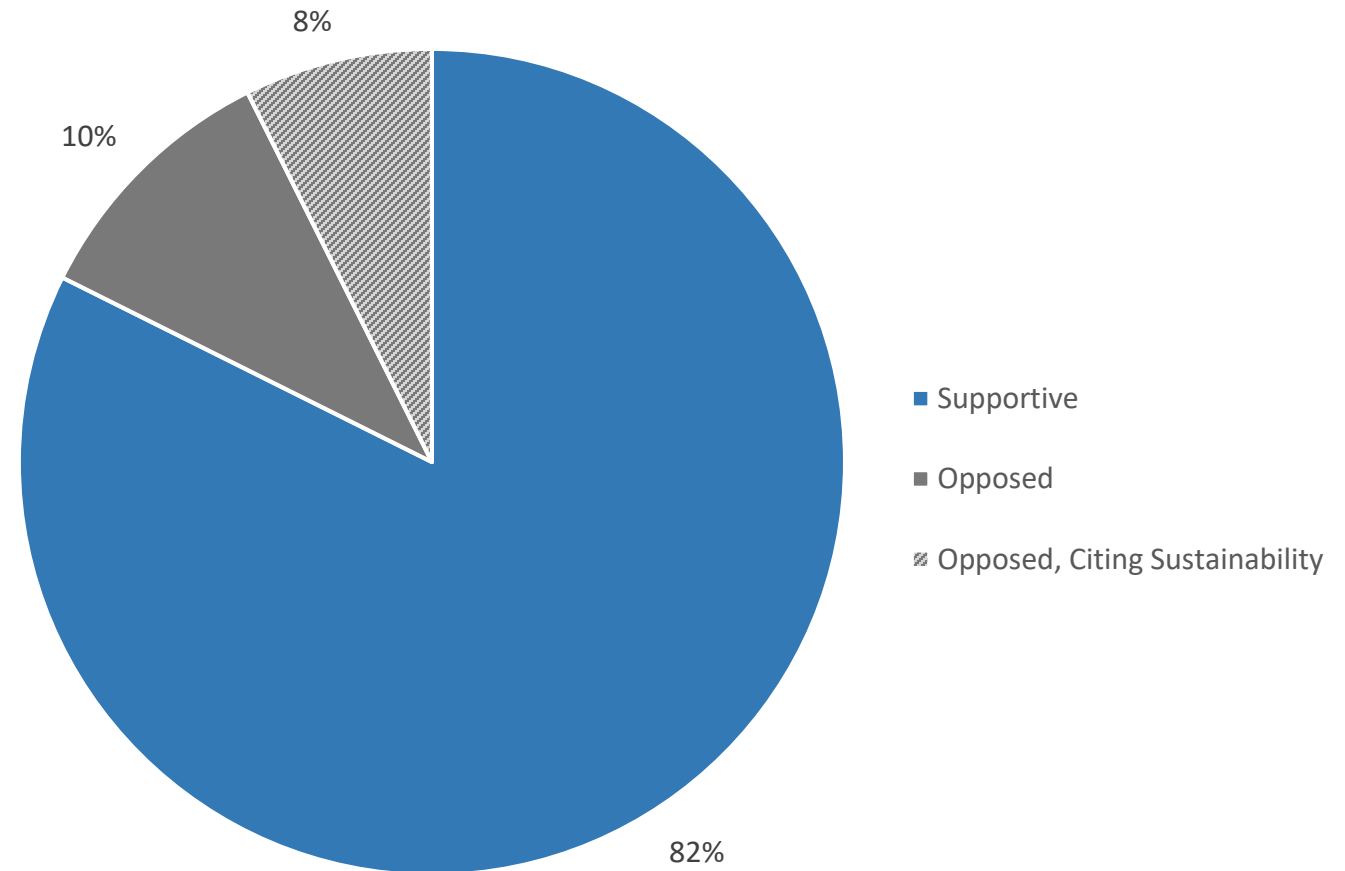


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Written comments

The feedback and comments that we've received have been overwhelmingly supportive

- Themes of support include: economic development, better access to care, new clinical services, and the overall health and wellness vision
- Themes of concern include:
 - Transit and bus services DA § 4.5
 - Access to the new campus DA § 4.5
 - Traffic DA §§ 8.1.1 & 8.1.2
 - Re-use of the existing campus DA § 4.9
 - Building height Specific Plan





HEALTH AND WELLNESS VILLAGE

Responding to public comment

We request the opportunity to respond to public comments and questions during today's meeting

Our formal ask of City Council

Approve the adoption of the NAH Health Village Specific Plan and amendment to the Zoning Map



Exterior Facade Design



HEALTH AND WELLNESS VILLAGE

Mission

Improving health, healing people.

Vision

Always better care.
Every person, every time...**together**.

Values

